# Visual UI Testing

**10/10/2021 – 19/11/2021**

1. **~~Vision~~**
   1. ~~Basic process working~~
   2. ~~Advanced matching algorithms~~
      1. ~~dHash, pHash, aHash~~
      2. ~~SIFT, SURF~~
      3. ~~Siamese NN~~
   3. ~~Adaptive threshold~~
   4. ~~Modal recognition~~
   5. ~~Performance improvement~~
2. **~~Robotic~~**
   1. ~~Basic process working (Review and revise Robotic program) - 15/11/2021~~
   2. ~~Integration with Vision detection part~~

**22/11/2021 – 30/11/2021**

1. **~~Whole process improvement~~**
   1. ~~Accuracy~~
      1. ~~Vision~~
         1. ~~Detection~~
         2. ~~Matching~~
      2. ~~Robot arm~~
         1. ~~Calibration~~
   2. ~~Performance~~
      1. ~~Vision~~
         1. ~~Detection~~
            1. ~~OCR~~
         2. ~~Matching~~
      2. ~~Robot arm~~
2. **~~Robot Arm~~**
   1. ~~Hardware & driver upgrade~~
3. **~~Vision~~**
   1. ~~New matching algorithms~~
      1. ~~Auto-encoder~~
4. **Dataset**
   1. Auto-testing tools to click app & collect UI

**1/12/2021 – 12/12/2021**

1. **Dataset**
   1. GUI operation trace
      1. Set up Auto-testing tools to click app
      2. Collect UIs
   2. ~~Matching~~
      1. ~~Collect dataset~~
2. **~~Quantitative Evaluation~~**
   1. ~~Matching algorithms~~

**12/12/2021 – 19/12/2021**

1. **~~Matching Improvement~~**
   1. ~~Accuracy~~
      1. ~~Similar shape (area, aspect ratio)~~
      2. ~~Select the pair with max similarity~~
   2. ~~Speed~~
      1. ~~Pre-load model~~
      2. ~~Encode clips in batch~~
2. **~~Scenario Experiment~~**
   1. ~~Testing samples~~ 
      1. ~~First 2 steps~~

**19/12/2021 – 31/12/2021**

1. **Stabilize the system**
2. **Dataset**
   1. GUI operation trace (Benchmark)
      1. Set up Auto-testing tools to click app
      2. Collect UIs
3. **Empirical study design (scale & diversity)**
   1. Visual
   2. Testing strategy
   3. Hardware control
   4. Metrics
      1. Low level
      2. High level
      3. Correlation

Paper1.

Benchmark, propose challenge, simple visual, large dataset (app), robotic system, auto testing record

Paper2.

Visual innovation, differing techniques

Paper3.